

200206592

- 4 -

initiate the file transfer using commands defined in the Internet protocol.

5 The Gnutella method is used when a particular file is being sought among other communication components. The search method is terminated at the very instant at which the sought file has been found for the first time.

10 The document US-A1-2002/073204 Dutta et al. "Method and system for exchange of node characteristics for data sharing in peer-to-peer data networks" shows a packet-switched communication network having communication components (computer) in which which interchange computer files with one another. In this case, the
15 files are sought and transferred on the basis of the Gnutella protocol. In this context, the user of a computer is shown characteristic information about the quality of the connection to one of the other computers found, this information relating firstly to the access
20 parameters for this computer found and secondly to the transfer speed (bit rate) of the connection. The information displayed also includes the names of the files which are stored on this computer and can be used for file interchange. The information is displayed to
25 the user of the computer, which means that he can then decide whether a connection to the other computer found is to remain for the purpose of file interchange or whether this connection needs to be cleared down. In this case, any computer may in principle both provide
30 files and obtain files from other computers.

While the correct file need only be found once when searching on the basis of the Gnutella method, it is frequently important in the case of the services in
35 communication networks - the resources - to gain access to a plurality of resources of the same type in order to be able to choose between them when required. This

AMENDED SHEET

ART 34 AMDT

200206592

- 4a -

case frequently arises with gateways, for example, which provide the client components in packet-switching communication

ART 34 AMDT

AMENDED SHEET

networks with connections to communication components in circuit-switching communication networks. In this context, the client components in a packet-switching communication network require the use-related
5 information about a plurality of server components of this type, because the gateways always support only a limited number of communication connections at the same time in line with their number of channels. Hence, if a gateway is already being utilized to the full extent,
10 it is necessary to be able to move to another gateway.

The document US-A1-2002/064147 Jonas et al. "Method and apparatus for transmitting and routing voice telephone calls over a packet switched computer network" shows a
15 method and an arrangement for communication connections (telephone calls) which are routed across networks between a first communication component (computer) in a first communication network (data network, Internet) and a second communication component (telephone) in a
20 second circuit-switched communication network (public telephone network). For this, the two communication networks, that is to say the Internet and the public telephone network, are linked to one another by means of gateways. For communication connections which are
25 set up to the circuit-switched communication network from the computer network, this communication component first sets up a connection to a central "authentication server", which in turn selects one of the gateways for the communication connection which is to be set up on
30 the basis of the current utilization level and the respective costs.

If a packet-switching communication network has a plurality of gateways available, then it is normal for
35 client components to have stored a list containing a

ART 34 AMDT

AMENDED SHEET

200206592

- 5a -

plurality of gateways. In searching for a free gateway, that is to say one which is not yet fully utilized, a client component successively contacts all of the gateways which the list contains

5

ART 34 AMDT

AMENDED SHEET

until a gateway with sufficient (residual) capacity has been found. In this case, the first gateway on this list is also referred to as the "default gateway" and the other gateways on this list are also referred to as

5 "fall-back gateways". The list containing the available resources in the communication network is administered from a central location in the communication network. In the event of changes to the network topology or in the event of changes in relation to the available

10 server components, the list is changed and is then made available to the client components again in updated form.

Gateways and other resources in the communication

15 network are reserved in multiple fashion primarily for capacity reasons. In this case, these communication components are normally physically distributed in the communication network. This firstly shortens the connection path on average and secondly results in cost

20 advantages, particularly in the case of gateways. A demanded high level of failsafety is also a reason to reserve central components in multiple fashion in communication networks.

25 It has been found to be a disadvantage with the known communication networks that resources which are already in use or are not so suitable are selected at the time of use.

30 It is an object of the invention to make the selection of resources in packet-switching communication networks more effective and at the same time to reduce the involvement for administering the communication networks.

35 This object is achieved for a method by the features specified in patent claim 1 and for a computer program

product by the features specified in patent claim 11.

In relation to the method, the way in which this object is achieved is that when a resource is being used by a communication component the database is used to store resource-specific information about the use of this resource, and the resource is selected on the basis of the resource-specific information stored in the database and on the basis of statistical information about the previous use of this resource.

In this case, simple means are used to ensure that when a particular resource is used a plurality of times or in the longer term, not just statements relating to the performance but also empirical values from previous instances of use of this resource are taken into account.

Advantageous refinements of the invention are specified in the subclaims.

In this case, information sent by the resources is statistically evaluated and stored for the purpose of storing the resource-specific information. By way of example, resource-specific information is information about the reliability, the safety, the availability, the costs for use of the resource etc.

Advantageously, the resource-specific information stored by a communication component can be provided for other communication components, which means that not every communication component is limited to the information in its own database or needs to set up its own database independently.

An exemplary embodiment of the inventive method is described below with reference to the drawing.

To this end, the single figure shows a schematic illustration of a packet-switching communication network which is connected to a circuit-switching
5 communication network.

Communication components A1 - A4, B1 - B11 in a packet-switching communication network VoIP are connected to one another.

ART 34 AMDT

AMENDED SHEET